

The opinion in support of the decision being entered today was **not** written for publication and is **not** precedent of the Board.

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

MAILED

SEP 29 2004

U.S. PATENT AND TRADEMARK OFFICE  
BOARD OF PATENT APPEALS  
AND INTERFERENCES

**Ex parte** HOLGER HUBNER and THOMAS ROHR

Appeal No. 2004-1777  
Application No. 09/685,362

ON BRIEF

Before WALTZ, TIMM and PAWLIKOWSKI, **Administrative Patent Judges.**

PAWLIKOWSKI, **Administrative Patent Judge.**

**DECISION ON APPEAL**

This is a decision on appeal under 35 U.S.C. § 134 from the examiner's final rejection of claims 1-4 and 6-9.

Claim 1 is representative of the subject matter in this appeal and is set forth below:

1. A semiconductor component, comprising:  
a first metal layer forming a first metal area  
and a second metal area electrically insulated from one another;  
a dielectric layer;

a second metal layer produced separately from said first metal layer and forming a third metal area insulated from said first metal layer by an interposition of said dielectric layer, and said third metal area together with said dielectric layer and said first metal area forms a memory element, said second metal layer further forming a fourth metal area which together with said second metal area forms a contact area used to make contact with said second metal layer and said second metal layer having an electrically conductive connection between said third metal area and said fourth metal area;

an insulation layer covering said contact area and said memory element and having at least one opening formed therein and leading to said contact area; and

an electrically conductive material filling said opening for making contact with said second metal layer.

Claims 1-4 and 6-9 stand rejected under 35 U.S.C. § 103 as being unpatentable over Ryan in view of Leung.

The examiner relies upon the following references as evidence of unpatentability:

|                      |           |                  |
|----------------------|-----------|------------------|
| Leung et al. (Leung) | 5,563,762 | October 8, 1996  |
| Ryan et al. (Ryan)   | 5,972,788 | October 26, 1999 |

We have carefully reviewed appellants' brief and reply brief, and the examiner's answer. This review has led us to conclude that the examiner's rejection is not well founded. Accordingly, we reverse the rejection.

#### **OPINION**

We determine that the examiner's rejection, as set forth on pages 3-6 of the answer, does not set forth a prima facie case of obviousness for the following reasons.

As pointed out by appellants, Ryan discloses a capacitor that is contacted from above, whereas Leung discloses a

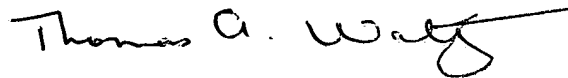
capacitor that is contacted from below. Reply brief, page 5. Leung describes this configuration as an "inverted" form of a capacitor. See col. 8, lines 37-42 of Leung.

The examiner's explanation in his rejection does not rectify these disparate structures. The examiner's motivation for combining is "it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the capacitor and contact structure of Ryan by forming the connection between the capacitor top electrode and contact portion simultaneously as taught by Leung to simplify the interconnection process and form a capacitor structure above the semiconductor without disrupting routing of the underlying interconnect metallization." Answer, page 5. Yet, the examiner does not explain how this simplification would occur in Ryan when Ryan's disclosure is a capacitor that is contacted from above, as shown in Figure 3. In the paragraph bridging pages 8 and 9 of the answer, the examiner alleges that "[o]ne of ordinary skill would apply this teaching to reduce the number of connections and vias to the interconnect and the capacitor of Ryan thus reducing processing steps and manufacturing costs". Yet, the examiner does not support this conclusory statement by facts or technical explanation. For example, the examiner has not explained how to alter the process in Ryan, and when altering the process of Ryan, what steps would be different which would in fact reduce the process steps and manufacturing cost. In fact, it appears to us that the modification of Ryan as suggested by the examiner goes against the contact from above configuration and would in fact complicate the process rather than simplify it. Therefore, we determine that the examiner's conclusion/allegation is unsubstantiated.

We further point out that the examiner does not explain why one of ordinary skilled in art would have been motivated to modify the configuration as set forth in Figure 3 of Ryan such that the third metal area and fourth metal area include a conductive connection between them.

In view of the above, we therefore reverse the rejection.

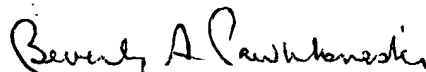
**REVERSED**



THOMAS A. WALTZ )  
Administrative Patent Judge )



CATHERINE TIMM )  
Administrative Patent Judge )



BEVERLY A. PAWLIKOWSKI )  
Administrative Patent Judge )

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